AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A Raman amplification pump module for outputting pump light for Raman-amplification of signal light propagating through an optical waveguide path, said module comprising:

a light source system for emitting light having two or more different output peak wavelengths; and

a nonlinear medium having an input port and an output port, wherein

said light source system comprises two or more light sources for emitting light having different wavelengths and an optical multiplexer for multiplexing light from said light sources and outputting the multiplexed light, [[and]]

said nonlinear medium affording nonlinear effect on light emitted from said light source system and input from the input port, and outputting the resultant light as pump light from the output port, and

at least one of said light sources being a high-output laser for outputting power capable of causing optical parametric effect.

2. (Cancelled)

3. (Original) A Raman amplification pump module according to claim 1, wherein said light source system comprises:

two or more light sources for emitting light having different wavelengths; and

an optical multiplexer for multiplexing light from the light sources and outputting the multiplexed light,

at least one of the light sources being a semiconductor laser without temperature adjusting means.

4. (Original) A Raman amplification pump module according to claim 1, wherein said light source system has one multi-wavelength light source for oscillating at two or more different wavelengths.

5. (Currently Amended) ~~A Raman amplification pump module according to claim 1,~~ A Raman amplification pump module for outputting pump light for Raman-amplification of signal light propagating through an optical waveguide path, said module comprising:

a light source system for emitting light having two or more different output peak wavelengths; and

a nonlinear medium having an input port and an output port,

said light source system comprises two or more light sources for emitting light having different wavelengths and an optical multiplexer for multiplexing light from said light sources and outputting the multiplexed light, and

said nonlinear medium affording nonlinear effect on light emitted from said light source system and input from the input port, and outputting the resultant light as pump light from the output port,

wherein the channel spacing $\Delta \lambda$ of two output peak wavelengths satisfies the following relationship with respect to at least one set of combination out of the combinations of two output peak wavelengths selected from said two or more output peak wavelengths:

$$\Delta\lambda \leq \sqrt{\frac{\lambda_o \gamma (P_1 + P_2 + 2\sqrt{P_1 P_2})}{\pi c |D|}}$$

where

λ_o is the wavelength center of two output peak wavelengths,

γ and D represent a nonlinear coefficient and a chromatic dispersion at

λ_o, respectively,

c represents light speed, and

P_1 and P_2 represent power at two output peak wavelengths, respectively.

6. (Previously Presented) A Raman amplification pump module according to claim 1, wherein the channel spacing $\Delta\lambda$ is equal to or more than 2 nm with respect to at least one set of combination out of the combinations of two output peak wavelengths selected from said two or more output peak wavelengths.

7. (Previously Presented) A Raman amplification pump module according to claim 1, wherein with respect to at least one set of combination out of the combinations of two output peak wavelengths selected from said two or more output peak wavelengths, when viewed from one wavelength having a larger power than the other wavelength, the other wavelength and the zero dispersion wavelength of the nonlinear medium exist on the same side.

8. (Original) A Raman amplification pump module according to claim 1, wherein said nonlinear medium is an optical fiber.

9. (Previously Presented) A Raman amplification pump module according to claim 8, wherein the relationship of the following formula is satisfied:

γ/α is not less than 13 $W^{-1}dB^{-1}$

where

the nonlinear coefficient of said optical fiber is γ $W^{-1}km^{-1}$, and

the transmission loss of said optical fiber is α dB/km.

Claims 10-11 (Cancelled)